

Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-19 (canceled)

20. (New) A mass spectrometer system for mass analysis of a sample to be measured, by ionizing the sample, comprising:

a first ion source for ionizing the sample;

a second ion source for producing ions of a polarity reversed from that of the ions produced in said first ion source;

an ion deflector for introducing and deflecting the ions of said first and second ion sources;

an ion-trap mass spectrometer including a ring electrode and a pair of endcap electrodes;

a detector for detecting the ions ejected from said mass spectrometer, wherein the ions from said first and second ion sources are introduced together through said ion deflector into said ion-trap mass spectrometer; the ions from the two ion sources are mixed in said ion-trap mass spectrometer; and the ions are then detected in said detector;

a third ion source for ionizing the sample to be measured;

a fourth ion source for producing ions of a polarity reversed from that of the ions produced in said third ion source; and

a second ion deflector for introducing and deflecting the ions coming from said third and fourth ion sources,

wherein said second ion deflector is arranged between said ion-trap mass spectrometer and the detector.

21. (New) A mass spectrometer system for mass analysis of a sample to be measured, by ionizing the sample, comprising:

a first ion source for ionizing the sample;

a second ion source for producing ions of a polarity reversed from that of the ions produced in said first ion source;

an ion deflector for introducing and deflecting the ions of said first and second ion sources;

a mass spectrometer for mass analysis of the ions;

a detector for detecting the ions ejected from said mass spectrometer, wherein the ions coming from said first and second ion sources are mixed between said first and second ion sources and said mass spectrometer; and in that the mixed ions are then introduced for the mass spectrometry into said mass spectrometer;

a quadrupole mass spectrometer for the mass analysis of the ions coming from said first ion source; and

a second rf multipole ion guide for producing the product ions of the ions ejected from said quadrupole mass spectrometer,

wherein said quadrupole mass spectrometer and said second rf multipole ion guide are arranged between said first ion source and said ion deflector.

22. (New) The mass spectrometer system of claim 21, which further comprises lens electrodes between said first ion source and said ion deflector and between said second ion source and said ion deflector, for controlling, when fed with voltages, the quantities of ions to pass.

23. (New) A mass spectrometer system for mass analysis of a sample to be measured, by ionizing the sample, comprising:

a first ion source for ionizing the sample;

a second ion source for producing ions of a polarity reversed from that of the ions produced in said first ion source;

a quadrupole mass spectrometer for the mass analysis of the ions coming from said first ion source;

an rf multipole ion guide for producing product ions of the ions ejected from said quadrupole mass spectrometer;

an ion deflector for introducing and deflecting the ions coming from said rf multipole ion guide and said second ion sources;

a mass spectrometer for the mass analysis of the ions ejected from said ion deflector; and

a detector for detecting the ions ejected from said mass spectrometer,
wherein

the ions from said first ion source and the ions from said second ion source
are caused to collide in said rf multipole ion guide.

24. (New) The mass spectrometer system of claim 23, wherein

said first ion source, said quadrupole mass spectrometer, said rf multipole
ion guide and said ion deflector are arranged on a common axis;

said second ion source, said ion deflector and said mass spectrometer are
arranged on a common axis; and

the axis containing said first ion source and the axis containing said second
ion source are arranged at a right angle with respect to each other.

25. (New) The mass spectrometer system of claim 23, wherein said rf
multipole ion guide includes a first region for producing product ions of the ions
coming from said first ion source and a second region for causing said product ions and
the ions coming from said second ion source to collide against each other.

26. (New) The mass spectrometer system of claim 23, wherein said mass
spectrometer is a quadrupole mass spectrometer or a time-of-flight mass spectrometer.

27. (New) The mass spectrometer system of claim 23, wherein the solution to
be fed to said second ion source contains polyethylene glycol (PEG) or polypropylene
glycol (PPG) as a chemical compound.

28. (New) The mass spectrometer system of claim 23, wherein there is arranged upstream of said detector an electrode, to which a voltage of the same polarity as that of the ions produced in said second ion source is applied.